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| 09/742,888 | 12/20/2000 | Andrew Beals | CISCP668 | 8236 |

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EXAMINER

SEFCHECK, GREGORY B

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2662

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,888

Applicant(s)

BEALS, ANDREW

Examiner

Gregory B Sefcheck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Amendment filed 5/28/2004 is acknowledged.
- Claim 17 has been amended to correct an improper dependency. The previous objection to claim 17 is withdrawn.
- Claims 7, 14, and 21 have been amended.
- Claims 1-23 are pending.

Drawings

The replacement drawings filed 5/28/2004 overcome the previous objection of insufficient margins and are acceptable for examining purposes only.

Formal drawings are required with replacements to all handwritten elements and text. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, 8, 9, 11, 15, 16, 18, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Gehring et al. (US006597683B1), hereafter Gehring.

- In regards to Claims 1, 2, 4, 8, 9, 11, 15, 16, 18, and 22,

Gehring discloses an apparatus and software architecture for executing a method of controlling a shared medium in a wireless network (Title; Abstract; Col. 8-9, lines 67-3; claim 1,5,15,22,23 – apparatus and method executed through a stored computer program for coordinating shared medium access in wireless network).

Referring to Fig. 3, Gehring discloses an apparatus 34 operating as a master node of the wireless network 32 (claim 8 – apparatus for operating master node of wireless network). Antenna 38 allows communication of information via a wireless medium (claim 8 – wireless interface for communicating information via a wireless medium).

Gehring shows the master node manages links between itself and all registered slave nodes (Col. 3, lines 27-43; claim 1,8,15,22 – master node/processor/code/means

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for recording a contact path to a newly admitted node; claim 4,11,18 – recording of contact path comprises registering a link usable to communicate to the new node to a routing client).

The master node generates a schedule for transmissions from all registered slave nodes within a TDMA frame. Each slave node is allocated a unique time slot for transmission, thereby avoiding collisions (Col. 4, lines 17-30; Col. 9, lines 35-38; claim 1,8,15,22 – means/code for generating a schedule for node transmission precluding collisions between simultaneous transmission by any pair of nodes including pairs that do not hear each other; claim 2,9,16 – schedule comprises time slots allocated to nodes that can be directly contacted by the master node).

A control section within each frame distributes the schedule to all the registered slave nodes (Col. 10, lines 11-17; claim 1,8,15,22 – means/code for distributing the schedule to nodes controlled by master node).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 6, 12, 13, 19, 20, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehring in view of Anvekar et al. (US006377805B1), hereafter Anvekar.

In regards to Claims 5, 6, 12, 13, 19, 20, and 23,

Gehring discloses an apparatus and software architecture for executing a method of controlling a shared medium in a wireless network that covers all limitations of the parent claims.

Gehring does not show selected nodes receiving and forwarding registration information from new nodes to a master node and continuing to receive and forward a transmission time allocation for the new node from the master node.

Anvekar discloses an apparatus and method executed by software on a processor for controlling access to the shared medium of a wireless network through a selected node of the network (Fig. 2-6; claim 12, 19 – apparatus executing a computer program for operating a selected node of wireless network; claim 12 – interface receives transmission from a new node comprising registration information)

Referring to Fig. 3 and 4, Anvekar discloses a slave unit 206 receiving a page to establish a link from a newly contactable node 205, which is then forwarded to the master node for communicating the new extended link to the network server. Node 205 is then provided the ability to communicate data using appropriate access information in a time-division-multiplexed manner through slave node 206 (Col. 4, lines 8-53; Col. 5, lines 20-29; claim 5,12,19,23 – means/code for receiving registration information from a newly contactable node at a selected node; claim 5,12,19,23 – means/code for forwarding registration information from selected node to master node; claim 5,12,19,23 – means/code for receiving a time allocation for transmission by new node at selected node from master node; claim 5,12,19,23 – means/code for transmitting time allocation to new node; claim 6,13,20 – selected node receiving a transmission from new node during a timeslot of the time allocation and forwarding the transmission to the master node).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus and software-executed method of Gehring by receiving and forwarding registration information from a new node to a master node by a slave node and continuing to receive and forward a transmission time allocation from a master node to the new node, as shown by Anvekar. This modification would extend the coverage area of the network to nodes that cannot be directly contacted by the master node, thus enabling communication in areas otherwise not covered by the master node of the network.

5. Claims 3, 7, 10, 14, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gehring in view of Bandeira et al. (US 20020072329A1), hereafter Bandeira.

- In regards to Claims 3, 7, 10, 14, 17, and 21,

Gehring discloses an apparatus and software architecture for executing a method of controlling a shared medium in a wireless network that covers all limitations of the parent claims.

Gehring does not show one of the time slots allocated as a subslot for transmission by a first node that can be directly contacted by the master node and a second node that cannot be directly contacted by the master node

Bandeira discloses a scalable wireless network topology for providing access to distributed nodes (Title; Abstract). Referring to Figs. 2 and 4, Bandeira discloses a transmission slot 2 which includes transmissions from node 2, which is directly contactable by master node 1, and transmissions from nodes 5 and 9, which are not directly contactable by master node 1 (Pg. 5, paragraphs 59-61; claim 3,10,17 – at least one of the time slots includes a subslot allocated for transmission by a node that cannot be directly contacted by the master; claim 7,14,21 – one time slot allocated for

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transmission from a first node directly contactable by master node and transmission from a second node directly contactable from first node but not master node).

It would have been obvious to one of ordinary skill in the art at the time of the invention to adapt the apparatus and software-executed method of Gehring by allocating the transmission time slots for transmissions from a node that is directly contactable by the master node and a node that is not directly contactable by the master node. This adaptation would enable nodes not directly contactable by the master node to attach to the network and transmit/receive data communications, thereby extending the coverage area of the network.

Response to Arguments

6. Applicant's arguments filed 5/28/2004 have been fully considered but they are not persuasive.

- In the Remarks on pg. 10 of the Amendment, the Applicant states that some of the notation used by the Examiner in the Office Action dated April 15, 2004 is unfamiliar.
- The Examiner's notation of "claim 1/7/8/14/16/21/22" refers to the claims of the instant application. As noted by the Applicant, claims 7, 14, and 21 are not rejected under 35 USC 102(e). Rather, the Examiner was attempting to

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illustrate the limitations of claims 7, 14, and 21 that are met by Gehring so that those particular limitations met solely by Gehring do not need to be explicitly restated in the rejection of claims 7, 14, and 21 under 35 USC 103. This previous notation has been changed to eliminate any confusion for the Applicant.

- In the Remarks on pg. 12 of the Amendment, the Applicant contends that Gehring does not provide a suggestion or teaching of "a generated schedule that precludes collisions between simultaneous transmission of pairs of nodes that do not hear each other's transmissions."
- It is the Examiner's opinion that the schedule generated by a master node for transmission by the slave nodes through the use of data slots does provide a teaching of a schedule that precludes collisions between simultaneous transmission of pairs of nodes, including pairs of nodes that do not hear each other. Any two slave nodes, including nodes that do not hear each other's transmissions, can be included in the data slot schedule of Gehring, where the alignment of the data slots themselves preclude collisions between simultaneous transmissions from any number of nodes. In fact, it can be seen in Fig. 4 of the instant application that the Applicant utilizes a similar data-slot scheme to preclude collisions as that shown in Fig. 4 of Gehring.

- In the Remarks on pg. 13 of the Amendment, the Applicant contends that Gehring does not teach or suggest a method including "receiving registration information from a newly contactable node at a selected wireless node and forwarding the registration information from the selected wireless node to a master node."
- It is the Examiner's opinion that Anvekar, as illustrated in Figs. 2 and 3 and lines 8-53 of column 4, shows a newly contactable node (205) that communicates (registers) with a selected slave node (206) to establish data forwarding through selected slave node 206 and master node 203 to Network Server 201.
- In the Remarks on pg. 14 of the Amendment, the Applicant contends that neither Gehring nor Anvekar teaches or suggests a selected node node receives a time allocation for transmission by a newly contactable node from a master node and transmits the time allocation to the newly contactable node.
- The Examiner has shown that Gehring teaches generating a schedule for transmission allocations for a plurality of slave nodes in a network. The Examiner has also shown that Anvekar teaches registering a newly contactable node not directly available to a master node through a selected

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slave node. As shown on pg. 6 of the previous Office Action, the method and apparatus of Gehring for scheduling and controlling slave node transmission allocations through a master node may be combined with Anvekar to extend the coverage of the network while maintaining transmission allocation control for the slave nodes through the master node.

- In the Remarks on pg. 15 of the Amendment, the Applicant contends that Bandeira does not teach of "a time slot during which the repeater node transmits data to its master and during which a node that cannot be directly reached by the master node is also transmitting."
- It is the Examiner's opinion that Bandeira, as illustrated in Figs. 2 and 4, shows a time slot allocation scheme in which a time slot (2) is allocated for transmission of data from master-contactable node 2 to master node 1 as well as data from non-contactable nodes 5 and 9, through contactable node 2, to master node 1. The Examiner agrees with the Applicant's analysis of Bandeira, in that data transmitted from nodes 5 and 9 may be buffered at node 2. However, transmission of that data to the master node occurs within the allocation time slot 2.

Conclusion

7. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B Sefcheck whose telephone number is 703-305-0633. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GBS
8-2-2004



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